

REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 1-8 and 11-16 are pending in this application. Claims 1 and 16 are independent. By this Amendment, Claims 1, 5, 11, 13 and 16 are amended. Support for the amendments to independent Claims 1 and 16 can be found, for example, at lines 26-29 of page 7 of the specification. Support for the amendment to Claim 5 can be found, for example, from line 31 of page 14 to line 5 of page 15 of the specification. Claims 11 and 13 are amended for consistency and to correct minor informalities. No new matter is added.

The Official Action rejects Claims 1-8 and 11-15 under 35 U.S.C. §112, second paragraph, because of minor informalities in Claims 1 and 11. Claims 1 and 11 are amended to obviate the rejection. Thus, withdrawal of the rejection based 35 U.S.C. §112 is respectfully requested.

The Official Action rejects Claims 1-8, 11-13 and 16 under 35 U.S.C. §103(a) over International Application Publication No. WO 01/85565 A1 to Toft et al. ("Toft") in view of either U.S. Patent No. 5,919,517 to Levendusky et al. ("Levendusky") or European Application Publication No. 1 099 544 to Kaschel et al. ("Kaschel"), and further in view of U.S. Patent No. 6,299,787 to Li et al. ("Li").

Independent Claim 1 is directed to a method in connection with the continuous joining of a first layer of aluminum and a second layer of a different material, to produce a packaging laminate comprising said first and second layers. The method comprises, *inter alia*, performing a plasma treatment locally, only at regions of through holes, openings or slits of a bulk layer of paper or paperboard, and

performing the plasma treatment intermittently on a continuously running web comprising the first layer.

Independent Claim 16 recites a packing laminate comprising a first layer of aluminum and a second layer of a material different from aluminum. The first layer has a first side surface joined to a bulk layer of paper or paperboard and an opposite flame-treated and plasma-treated second side surface joined to the second layer. The bulk layer exhibits through holes, openings or slits covered by a membrane comprising the first layer of aluminum. The plasma-treated second side surface comprises spaced apart locally plasma-treated regions at the through holes, openings or slits. The second side surface of the first layer comprises non-plasma-treated regions between the spaced apart locally plasma-treated regions, the non-plasma-treated regions not being plasma-treated.

The Official Action acknowledges that the combination of Toft and Levendusky/Kaschel fails to disclose plasma treatment performed *locally* at regions of the through holes, openings or slits, and performed intermittently on a continuously running web. However, the Official Action says that these aspects are disclosed by Li.

Li discloses a method of providing adhesion to a fluorinated polymer in which at least a portion of the surface of the fluorinated polymer is exposed to plasma discharge in an atmosphere containing an organic amine. Li discloses at col. 3, lines 24-35 that intermittently operating the plasma discharge advantageously increases the adhesive bond strength as compared to treatments without intermittent operation. The Official Action takes the position that applying Li's plasma discharge to the entire surface of Toft's aluminum foil 4a would result in local treatment of the

areas where Toft's through holes 2 are present. That is, the Official Action states that plasma discharge exposure to the entire surface of Toft's aluminum foil would necessarily include local plasma discharge treatment of the regions surrounding the holes 2. According to the Official Action, the word "locally" used to describe exposure to the areas where the holes are present does not preclude the possibility of plasma exposure to the entire surface.

In view of the Official Action's interpretation, independent Claim 1 is amended to make explicit that which was implicit and intended by the previous claim wording, namely that the plasma treatment is performed locally only at regions of the through holes, openings or slits. Li fails to disclose exposing the surface of the fluorinated polymer to plasma discharge only at specific locations, and thus, if included in Toft's production method, would not have resulted in exposing only areas of Toft's aluminum foil 4a where Toft's through holes 2 are present.

According to the claimed method, plasma treatment performed locally only at regions of the through holes, openings or slits improves the adhesion between the first and second layers in the regions of the through holes, openings or slits, while not providing the same degree of adhesion in other areas where the improved adhesion between the layers could be problematic. If the adhesion between the layers is excessively high, the packaging laminate is particularly sensitive to strain cracking in so-called K-crease regions where the packaging laminate is folded two times in order to shape the packaging container. Thus, the method at issue here provides improved adhesion and openability in the hole regions, while not impairing the desired adhesion in other portions of the laminate where the same improved

adhesion may not be necessary (see page 7, line 19 to page 8, line 3 of the specification).

None of the applied references discloses or suggests these claimed aspects or the resulting benefits. Levendusky describes a method of coating both sides of an aluminum strip 10 with thermoplastic resin from extruders and extrusion dies which deposit the thermoplastic resin on opposite sides of the strip as shown in Fig. 1 of the reference. The aluminum strip 10 is heated by a heater 20 as the strip moves downwardly from a roll 16. The Toft patent is not concerned with providing differentiated or tailored adhesion through the application of local treatment in which the plasma treatment is performed locally only at regions of the through holes, openings or slits, with the plasma treatment being performed intermittently. This is acknowledged by the Official Action. Kaschel fails to overcome the deficiencies of Toft, and simply discloses surface-treatment of a polymer substrate film before metallizing or vapor depositing a coating.

Independent Claim 16 is amended to define the previously claimed "locally plasma-treated regions" in a different manner -- by reciting that the second side surface of the first layer comprises non-plasma-treated regions between the spaced apart locally plasma-treated regions, and that the non-plasma-treated regions not being plasma-treated. Li and the other applied references fail to disclose these features.

Thus, independent Claims 1 and 16 are patentable over the applied references for at least the above reasons.

The Official Action acknowledges that Li's plasma discharge is applied to a fluorinated polymer rather than an aluminum material. Nevertheless, the Official

Action takes the position that one skilled in the art could have appreciated, in view Li, that the plasma discharge could have been applied to "any material", such as aluminum, to improve adhesion characteristics for that material. Applicants respectfully disagree with this point.

In Li's method, activated products of organic amine are polymerized as a thin layer 2 on one or multiple surfaces of the bulk polymeric material 1 (see col. 4, lines 45-52 of Li). Li uses organic alkyl amines in a plasma gas which react with the polymer molecules on the surface of the polymeric material 1 to create an improved bond with the polymeric material. The organic alkyl amines would not react with an aluminum surface in the same manner (i.e., to create a bond with the aluminum material). Rather, the organic alkyl amines would simply coat the aluminum surface with a plasma polymerization coating. Accordingly, one skilled in the art would not have applied Li's plasma discharge to Toft's aluminum material to join a first layer of aluminum and a second layer of a different material to produce a packaging laminate as recited in independent Claim 1.

Thus, independent Claim 1 is patentable over the applied references for at least these additional reasons.

Claims 2-8 and 11-13 are patentable over the applied references at least by virtue of their dependence from patentable independent Claim 1. Thus, a detailed discussion of the additional distinguishing aspects of the method, laminate and container recited in these dependent claims is not set forth at this time. Withdrawal of the rejection is respectfully requested.

The Official Action rejects independent Claim 16 under 35 U.S.C. §103(a) over Toft in view of either Levendusky or Kaschel.

The combination of Toft and Levendusky or Kaschel does not disclose, and would not have rendered obvious, a packing laminate including, *inter alia*, a first layer of aluminum having a plasma-treated second side surface, the second side surface of the first layer comprising non-plasma-treated regions between spaced apart locally plasma-treated regions, the non-plasma-treated regions not being plasma-treated, as recited in independent Claim 16. Thus, independent Claim 16 is patentable over Toft, Levendusky and Kaschel for at least the reasons discussed above. Withdrawal of the rejection is respectfully requested.

The Official Action rejects Claim 14 under 35 U.S.C. §103(a) over Toft in view of Levendusky or Kaschel and Li, and further in view of U.S. Patent No. 6,279,779 to Laciacara et al. ("Laciacara").

Claim 14 is patentable over the applied references at least by virtue of its dependence from patentable independent Claim 1. Thus, a detailed discussion of the additional distinguishing features recited in Claim 14 is not set forth at this time. Withdrawal of the rejection is respectfully requested.

The Official Action rejects Claims 11-13 under 35 U.S.C. §102(b) over Toft; and rejects Claims 11-14 under 35 U.S.C. §102(b) over Laciacara. These anticipatory rejections are legally incorrect.

Claims 11-14 incorporate all of the aspects defined in independent Claim 1. The Official Action acknowledges that each of Toft and Laciacara fails to anticipate the subject matter defined in independent Claim 1. It is legally incorrect to say that Toft and Laciacara anticipate dependent claims which ultimately depend from an independent claim acknowledged as not anticipated by these references.

Withdrawal of the anticipatory rejections for at least this reason is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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